information setting forth hook load limits corresponding to boom radii based on the intact stability criterion in §173.020 must be provided.

(b) *Counterballasted vessel.* If a vessel is counterballasted with water, the following information must be provided:

(1) Instructions on the effect of the free surface of the counterballast water.

(2) Instructions on the amounts of counterballast needed to compensate for hook load heeling moments.

(3) If a vessel has fixed counterballast, a table of draft versus maximum vertical moment of deck cargo and hook load combined.

(4) If a vessel has variable counterballast, a table of draft versus maximum vertical moment of deck cargo and hook load combined for each counterballasted condition.

§170.135 Operating information for a vessel with Type III subdivision.

(a) In addition to the information required in §170.110, the stability booklet of a passenger vessel with Type III subdivision must contain the information required by Regulation 8(b) of IMO Resolution A.265 (VIII).

(b) International Maritime Organization Resolution A.265 (VIII) is incorporated by reference into this part.

(c) As used in IMO Resolution A.265 (VIII), *Administration* means the Commandant, U. S. Coast Guard.

Subpart E—Weather Criteria

§170.160 Specific applicability

(a) Except as provided in paragraphs (b) and (c) of this section, this subpart applies to each vessel.

(b) This subpart does not apply to any of the following vessels unless the stability of the vessel is questioned by the OCMI:

(1) A deck cargo barge that complies with the requirements in §174.020 of this chapter.

(2) A tank vessel that only carries a product listed in §30.25–1 of this chapter and that is—

(i) Less than 150 gross tons; or

(ii) A tank barge that operates only in river or lakes, bays, and sounds service.

(3) A sailing school vessel that is an open boat that complies with the requirements in §173.063(e) of this subchapter.

(c) This subpart does not apply to the following vessels:

(1) A tank barge that carries a product listed in Table 151.01–10(b) of this chapter.

(2) A mobile offshore drilling unit.

(3) A vessel that performs the test required by §178.330 of this chapter.

[CGD 79–023, 48 FR 51010, Nov. 4, 1983, as amended by CGD 83–005, 51 FR 923, Jan. 9, 1986; CGD 85–080, 61 FR 944, Jan. 10, 1996; USCG–2007–29018, 72 FR 53968, Sept. 21, 2007]

§170.170 Calculations required.

(a) Each vessel must be shown by design calculations to have a metacentric height (GM) that is equal to or greater than the following in each condition of loading and operation:

$$GM \geq \frac{PAH}{W \tan(T)}$$

Where—

P=.005+(L/14,200)^2 tons/ft^2 . . . for ocean service, Great Lakes winter service, or service on exposed waters.

P=.055+(L/1309)^2 metric tons/m^2 . . . for ocean service, Great Lakes winter service, or service on exposed waters.

P=.0033+(L/14,200)^2 tons/ft^2 . . . for Great Lakes summer service or service on partially protected waters.

P=.036+(L/1309)^2 metric tons/m^2 . . . for Great lakes summer service or service on partially protected waters.

P=.0025+(L/14,200)^2 tons/ft^2 . . . for service on protected waters.

P=.028+(L/1309)^2 metric tons/m^2 . . . for service on protected waters.

L=LBP in feet (meters).

A=projected lateral area in square feet (square meters) of the portion of the vessel and deck cargo above the waterline.

H=the vertical distance in feet (meters) from the center of A to the center of the underwater lateral area or approximately to the one-half draft point.

W=displacement in long (metric) tons.

T=either:

(1) the lesser of either 14 degrees heel or the angle of heel in degrees at which one-half the freeboard to the deck edge is immersed; or

(2) for a sailing vessel, T = the lesser of either 14 degrees or the angle of heel in degrees to the deck edge.

The deck edge is to be taken as the intersection of the sideshell and the uppermost